



FUELING SUSTAINABLE BROADBAND SOLUTIONS

Middle Mile Development
Can Reduce USF Subsidies &
Drive Competition in Alaska

Presented by: Elizabeth Pierce, CEO Quintillion Networks, LLC
www.quintillionnetworks.com

June 2013

Introduction

Quintillion Networks

global communications, fast, reliable and secure

- Owner-Builder-Operator investing in middle mile infrastructure to connect Alaska, national and global customers
- New middle-mile submarine and terrestrial fiber optic cable
- Carriers' Carrier, open access
- Alaska-based company
- Committed to providing high capacity, reliable connectivity at much lower cost

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Introduction

Quintillion Networks

Executive Team

Elizabeth Pierce, Chief Executive Officer

- 12+ year in Alaska telecommunications
- 25+ year experience with infrastructure projects in the far North
- Former executive with Alaska Communications

Hans Roeterink, Chief Operating Officer

- 30+ year history in International telecommunications and energy
- Former executive with TDX Power & Deutsche Telekom US

Sarah Barton, Chief Strategy Officer

- Program Management of large Alaska infrastructure projects
- Former executive with Arcadis/RISE

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Improving Broadband

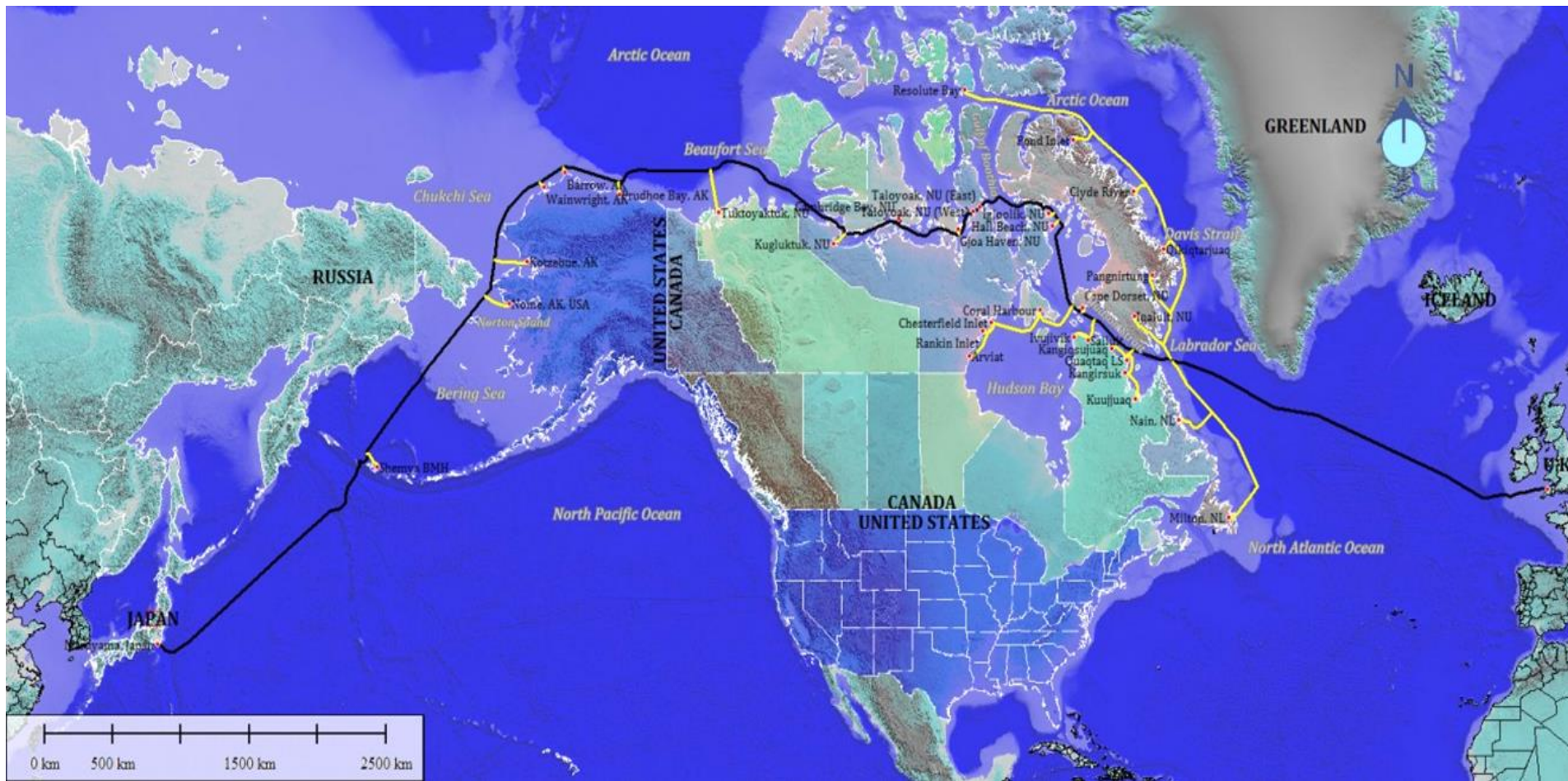
Alaska Spurs and Interconnect

Arctic Fibre + Quintillion Networks

- Quintillion is the exclusive Alaska partner for all spurs and interconnect rights to the Arctic Fibre network in the US
- Arctic Fibre network is a subsea fiber optic cable extending from London to Tokyo via the Bering Strait, Beaufort Sea and Canadian Arctic
- Scheduled in-service date 2015
- www.arcticfibre.com

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Arctic Fibre & Quintillion Networks



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Alaska Middle Mile : Today

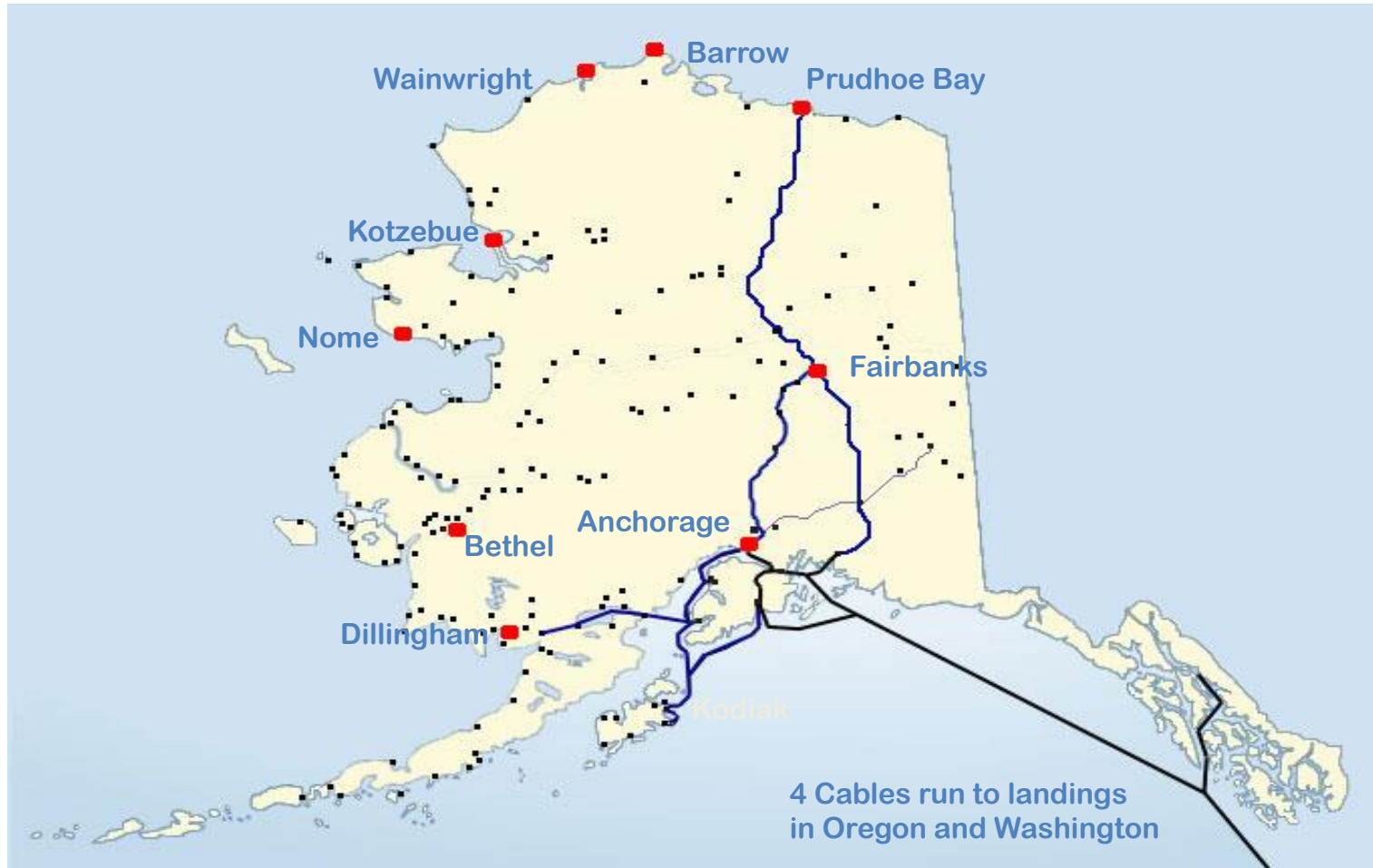
Challenges Unique to Alaska

Alaska and Broadband Challenges

- Alaska has 255 remote, non-road-connected communities spread over 600,000 square miles; roughly an area twice the size of Texas
- Broadband is limited in both availability and capacity
- The high cost of broadband impedes adoption of high-value services supporting education, health care and efficient delivery of government services
- Access and affordability challenges impede economic development
- Environmental protection and emergency response impeded by lack of broadband capacity in developing markets

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Alaska Fiber Optic Cable in 2013



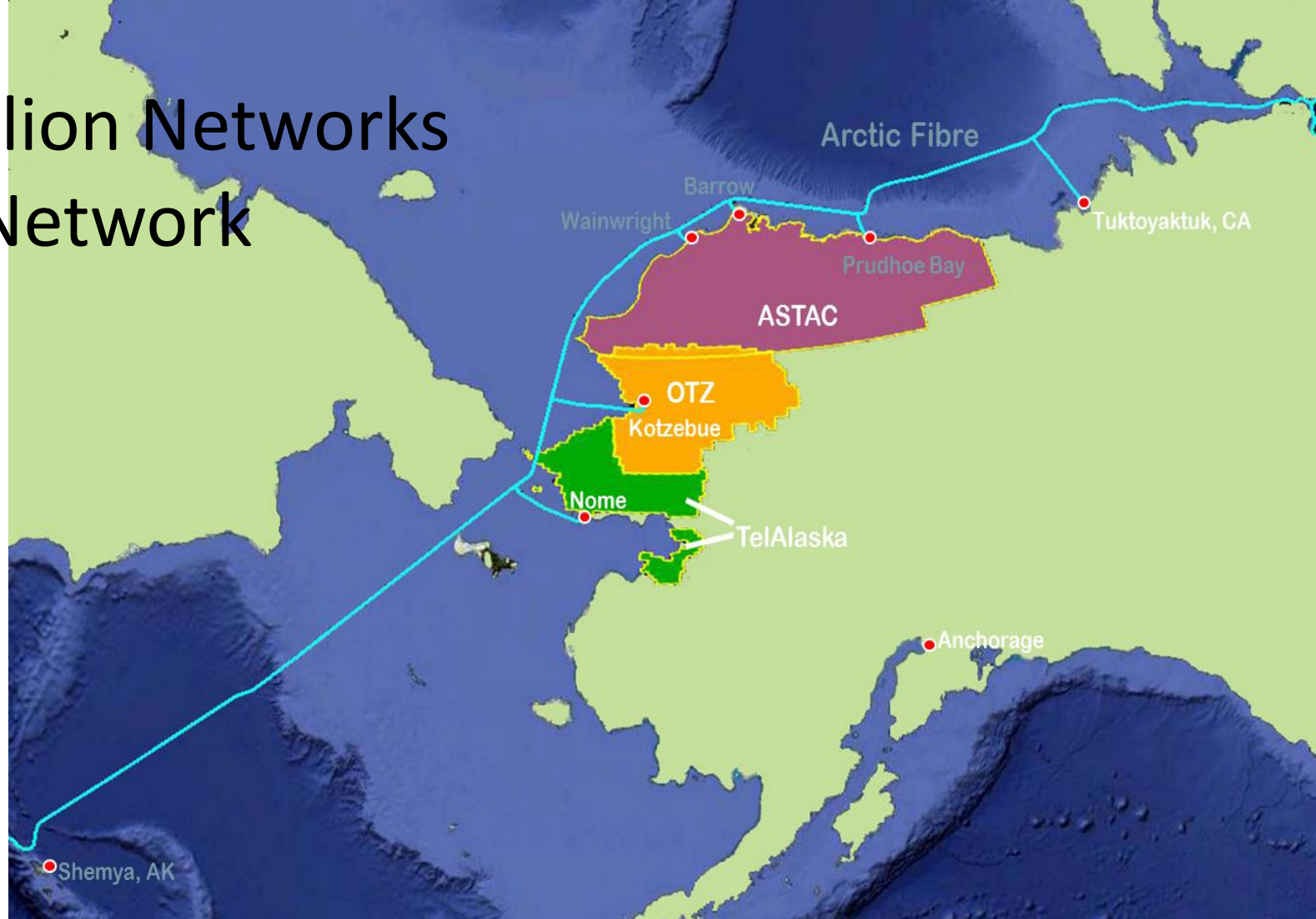
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Quintillion Networks – 100G Network

- Quintillion Networks will add new broadband capacity with subsea fiber optic cable builds to 5 Alaska Landing Sites
 - **Nome, Kotzebue, Wainwright, Barrow, & Prudhoe Bay**
- Day 1 Deployment will deliver up to 100 Gbps bandwidth at each landing
- The Alaska Middle Mile Network will change
 - Significant price reduction to last mile providers in affected markets
 - Middle mile open to all service providers encourages competition on product, price and service at the last mile
 - Provides real broadband to currently under and un-served areas

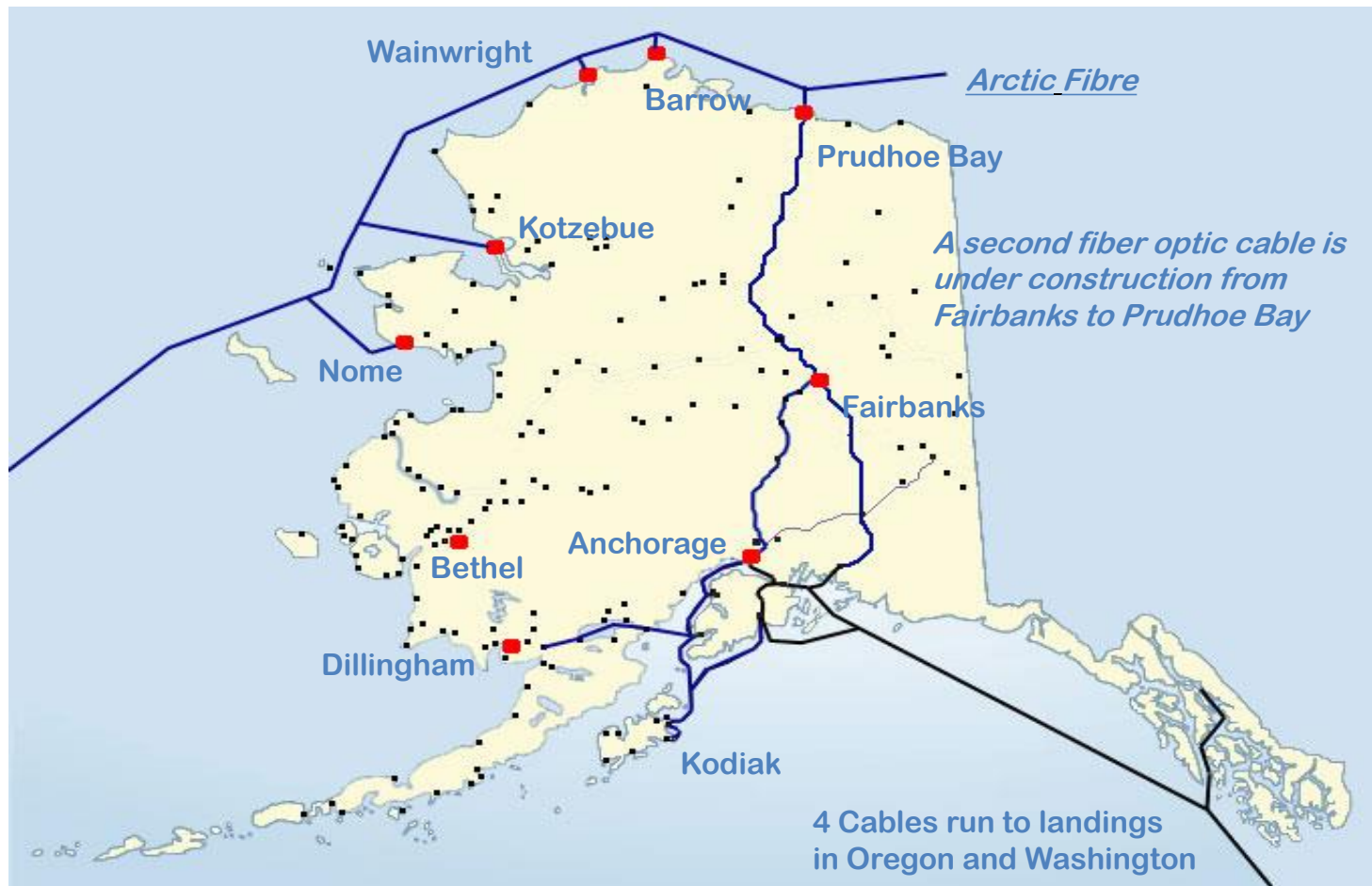
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Quintillion Networks 100G Network



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Alaska Fiber Optic Cable in 2015



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Lower Costs Improve Affordability

- Lower capital investment because of joint build with Arctic Fibre
- Additional revenue stream from traffic moving from Western US to international locations through Alaska
- Industry cooperation reduces overhead and avoids duplicate costs: colocation, outsourcing O&M,
- Lower cost of operation than microwave or satellite
- Competition on product, price and service at the user interface instead of on the backhaul
- Provides for more affordable base for connecting neighboring communities

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Extending the Middle Mile

Example of Opportunity

Connecting Teller and Brevig Mission from the Quintillion Spur at Nome

- Estimated cost for fiber build up to \$14M, delivering gigabit capacity and low operating and maintenance costs
- Compared to \$18.5M build for microwave, with limited bandwidth and high maintenance costs
- Utilizes existing road system : 72 miles of seasonal gravel roadway
- Provides communications infrastructure for future mine and deep water port projects



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Reducing Long Term Federal Subsidies

High Capacity, Affordable Middle Mile for Alaska

Quintillion Networks middle mile service rate will reduce backhaul costs by at least 50% from current satellite wholesale prices.

Smart development of middle mile infrastructure will reduce cost of service and increase use of business, education, health-care and quality of life applications that will improve the social-economic conditions in rural Alaska

Our next challenge is planning for and funding the extension of the fiber optic middle mile to deliver high capacity bandwidth at much lower costs to more rural Alaska communities

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Contact for More Information

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